

21 --10. (New) In a method for continuous casting bars, billet, and slabs from a melt in dimensional ranges of approximately 20 to 150 mm thickness and approximately 600 to 3500 mm width by means of an oscillating, water-cooled casting mold in cooperation with a submerged-entry nozzle, employing casting powder for formation of casting slag, the method including the steps of:

measuring local temperatures and local heat flux densities of a casting mold in a meniscus area of the melt critical for the surface quality of a slab;

maintaining working temperatures of the casting mold plates in the meniscus area within a predetermined temperature range (ΔT) by adjusting operating parameters selected from the group consisting of the quantity of the cooling water, the throughput speed of the cooling water through the casting mold, the casting speed, and the casting powder to be used;

arranging thermoelements in the casting mold plates at a defined spacing from one another and within a height range above and below the bath level, respectively, for determining the working temperatures of the casting mold plates, wherein the thermoelements are arranged at different depths in the casting mold wall and wherein, based on a temperature difference of at least two of the thermoelements positioned substantially at the same height, the corresponding local heat flux density is

calculated;

calculating a maximum temperature course of the wall surface in contact with the melt by means of approximation functions, based on a measurement of the course of the local temperatures or the heat flux along a height of the casting mold wall;

the improvement comprising:

determining when a change of the heat flux density is measured along the height of the casting mold wall as a result of two-dimensional heat transfer in the area of the bath level (M), the position of the bath level (M) based on an assumed heat density course in a casting mold surface and the known heat flux density in the depth (x) of a casting mold wall; and

controlling, when knowing the optimal flux density or the maximum surface temperature, the best suited casting mold load for an optimal slab surface formation by adjusting at least one of the operating parameters selected from the group consisting of cooling water quantity and casting speed and casting powder.

REMARKS

Claim 10 is the only claim in the application.

Claims 1, 3, 6 and 7 have been deleted.